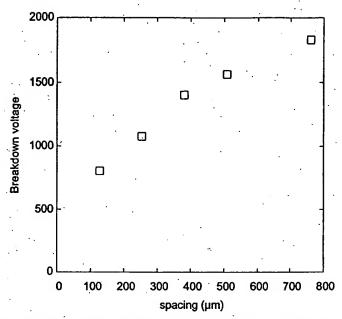


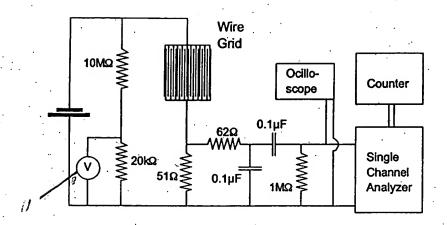
Schematic of T3 circuit; trace width 254  $\mu m,$  spacing 381 microns, overall area 1.2 x 1.2 cm (not to scale).

FIG 1

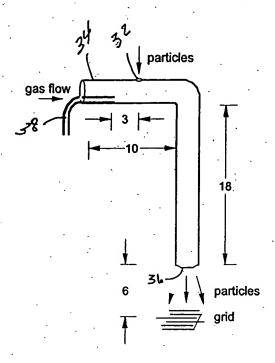


Plot of breakdown voltages of circuit board without particles present.

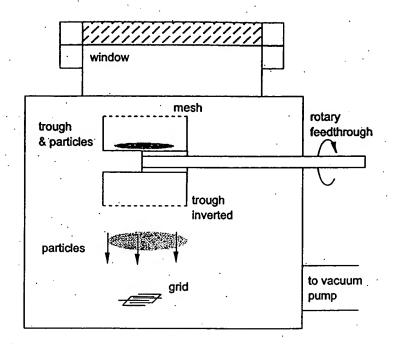
F16- 2



Circuit diagram including power supply, high pass and low pass filters, oscilloscope, single channel analyzer and counter.

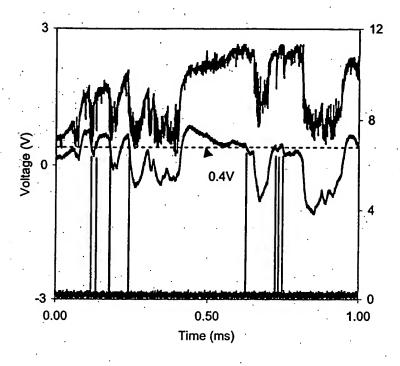


Particle delivery system for experiments in air. The dimensions are in cm.



Particle delivery system for experiments in vacuum.

F16 5



Typical waveforms of the signal created by approximately 0.3 mg of impinging particles on grid T4 with a bias voltage of 50V in air. The uppermost waveform is the unfiltered signal, the waveform directly below it is the signal after it passed through the band pass filters (Y-axis scale on left). The lowermost waveform is the signal from the single channel analyzer (SCA) and corresponding Y-axis scale is on the right. Also shown is a dotted line indicating 0.4V. The SCA was set to trigger on the falling edges of pulses at 0.4V.

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